



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,743	02/12/2004	Robert Tod Dimpsey	AUS920030826US1	5610

35525 7590 04/04/2008
IBM CORP (YA)
C/O YEE & ASSOCIATES PC
P.O. BOX 802333
DALLAS, TX 75380

EXAMINER

TECKLU, ISAAC TUKU

ART UNIT	PAPER NUMBER
----------	--------------

2192

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

04/04/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptonotifs@yeeiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/777,743	DIMPSEY ET AL.	
	Examiner	Art Unit	
	ISAAC T. TECKLU	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/21/08, 07/17/07, 02/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the application filed on 02/12/2004.
2. Claims 1-21 have been examined.

Specification

3. The attempt to incorporate subject matter into this application by reference to other applications is ineffective because the reference documents are not clearly identified as required by 37 CFR 1.57(b)(2). Specifically, the application numbers provided in the disclosure are incomplete (specification, page 1). Appropriate correction is required.

Information Disclosure Statement

4. The information disclosure statement filed January 21, 2008, fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the cited document is not referred to by date or place of publication. However, a document believed to be equivalent to the applicant-cited document is cited in the attached Notice of References Cited, form PTO-892. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11-20 and 21 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter

Claim 11 recites “computer readable medium” defined to include transmission-type media (page 55). Thus, under the Interim Guidelines such media do not fall within one of the four statutory classes of 35 U.S.C. 101 (See Annex IV). Therefore, the above claims are non-statutory.

A computer-readable media is a tangible physical article or object, some form of matter, which a signal (infrared)/carrier wave is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal/carrier wave, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal/carrier wave does not fall within one of the four statutory classes of Sec. 101. See Annex IV (c) Electro-Magnetic Signals, Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (signed October 26, 2005) – OG Cite: 1300 OG 142. Online version can be retrieved at <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

Under the principles of compact prosecution, claims 11-20 have been examined as the Examiner anticipates the claims will be amended to obviate these 35 USC 101 issues. For example, A computer recordable-type medium...-

Claims 12-20 are rejected for failing to cure the deficiencies of the above rejected non-statutory claim 11 above.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 21 is directed to an apparatus. However, as recited, the apparatus is reasonably interpreted as entirely software, such as Claim 11, which amounts to descriptive material per se. The apparatus is not recorded on any computer-readable medium that would permit the functionality of the tool to be realized. Thus, the claim is directed to non-statutory subject matter. See MPEP § 2106.01.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wygodny et al. (US 6,282,701 B1.

Per claim 1, Wygodny discloses a method, in a data processing system, for automatically identifying performance regression between builds of a computer program based on trace data obtained from a plurality of executions of a first and second build of a computer program (e.g. FIG. 1A and 1B and related text), comprising:

obtaining a plurality of call tree data structures corresponding to the trace data for the plurality of executions of the first and second builds of the computer program (col. 30:35-45 “... first program first trace information ... second program second trace information ...” and e.g. FIG. 1A, 120 and FIG. 1B, 120, 122 – note the TCI FILE and TRACE LOG FILE contain trace information as call tree);

generating a minimized call tree data structure from the plurality of call tree data structures for each of the first and second builds of the computer program (col. 15:30-40 “... reduces the number of records in the trace log file...”), wherein the minimized call tree data-structure includes a minimum set of nodes that are consistent between the plurality of call tree data structures (e.g. FIG. 6 – note: hierarchical tree of trace objected listed to hierarchical level);

subtracting the minimized call tree data structure for the second build of the computer program from the minimized call tree data structure of the second computer program to thereby generate a subtracted minimized call tree data structure (col. 7:40-50 “... filtering the trace

information ...” and col. 18:5-15 “... filters out some of the available trace data ...” and e.g.

FIG. 5 and related text); and

outputting the subtracted minimized call tree data structure (e.g. FIG. 1B, TRACE LOG FILE 122 and related text).

Per claim 2, Wygodny discloses the method of claim 1, further comprising:

inputting the trace data to an arc flow tool, wherein the arcflow tool generates the plurality of call tree data structures for each of the first and second builds of the computer program based on the trace data (col. 30:35-45 “... first program first trace information ... second program second trace information ...” and e.g. FIG. 1A, 120 and FIG. 1B, 120, 122 – note the TCI FILE and TRACE LOG FILE contain trace information as call tree).

Per claim 3, Wygodny discloses the method of claim 1, wherein the plurality of call tree data structures for each of the first and second builds of the computer program are xtree data structures (col. 8:50-65 “... call tree in the executable programs ..” and e.g. FIG. 3A and related text).

Per claim 4, Wygodny discloses the method of claim 1, wherein generating the minimized call tree data structure includes:

copying a first call tree data structure for a selected build of the computer program (e.g. FIG. 1B, 104 – copies the content of trace information/ call tree); and

walking a second call tree data structure for the selected build of the computer program over the first call tree data structure to generate the minimized call tree data structure (e.g. FIG. 1B, 106 – copies the content of trace information/ call tree).

Per claim 5, Wygodny discloses the method of claim 4, wherein walking the second call tree data structure over the first call tree data structure includes: for each node that exists in both the first call tree data structure and the second call tree data structure, generating a node in the minimized call tree data structure and associating values with the node (col. 7:25-40 “... generates trace information that describes the execution of the client...”).

Per claim 6, Wygodny discloses the method of claim 5, wherein the values associated with the node are values that correspond to the minimum of the values associated with corresponding nodes in the first call tree data structure and the second call tree data structure (col. 7:55-67 “... such as values of specific program ...”).

Per claim 7, Wygodny discloses the method of claim 4, wherein walking the second call tree data structure over the first call tree data structure includes: for each node that exists in only one of the first call tree data structure and the second call tree data structure, inhibiting creating a node in the minimum call tree data structures (col. 7:25-40 “... generates trace information that describes the execution of the client...”).

Per claim 8, Wygodny discloses the method of claim 1, wherein subtracting the minimized call tree data structure for the second build from the minimized call tree data

structure for the first build to generate a subtracted minimized call tree data structure includes: copying the minimized call tree data structure for the first build (e.g. FIG. 1B, 106 – copies the content of trace information/ call tree); and walking the minimized call tree data structure for the second build over the minimized call tree data structure for the first build to generate the subtracted minimized call tree data structure (e.g. FIG. 1B, 104 – copies the content of trace information/ call tree).

Per claim 9, Wygodny discloses the method of claim 8, wherein walking the minimized call tree data structure for the second build over the minimized call tree data structure for the first build includes: for each node that exists in both the minimized call tree data structure for the first build and the minimized call tree data structure for the second build (col. 30:35-45 “... first program first trace information ... second program second trace information ...” and e.g. FIG. 1A, 120 and FIG. 1B, 120, 122 – note the TCI FILE and TRACE LOG FILE contain trace information as call tree), generating a node in the subtracted minimized call tree data structure by subtracting a minimum base value of the node in the minimized call tree data structure for the second build from a minimum base value of a corresponding node in the minimized call tree data structure for the first build (e.g. FIG. 1B, 104 – copies the content of trace information/ call tree).

Per claim 11, this is the program product version of the claimed method discussed above (Claim 1), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 12, this is the program product version of the claimed method discussed above (Claim 2), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 13, this is the program product version of the claimed method discussed above (Claim 3), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 14, this is the program product version of the claimed method discussed above (Claim 4), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 15, this is the program product version of the claimed method discussed above (Claim 5), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 16, this is the program product version of the claimed method discussed above (Claim 6), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 17, this is the program product version of the claimed method discussed above (Claim 7), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 18, this is the program product version of the claimed method discussed above (Claim 8), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 19, this is the program product version of the claimed method discussed above (Claim 19), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Per claim 21, this is the apparatus version of the claimed method discussed above (Claim 1), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Wygodny.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wygodny et al. (US 6,282,701 B1) in view of Levine et al. (US 6,349,406 B1).

Per claim 10, Wygodny does not explicitly disclose the method of claim 8, wherein walking the minimized call tree data structure for the second build over the minimized call tree data structure for the first build includes: for each node that exists in only one of the minimized call tree data structure for the first build and the minimized call tree data structure for the second build, creating a node in the subtracted minimized call tree data structure having a negative minimum base value corresponding to a minimum base value of the node that exists in either of the minimized call tree data structure for the first build or the minimized call tree data structure for the second build. However, Levine discloses a method and system for compensating for instrumentation overhead in trace data by computing average minimum event times is provided. In order to profile a program, the program is executed to generate trace records that are written to a trace file. A set of trace event records are processed, and the trace events are represented as one or more nodes in a tree data structure. One or more performance statistics are stored at each node in the tree data structure, and a performance statistic at each node is processed to determine an overhead compensation value. The overhead compensation value is determined by computing a local overhead value for each node in the tree data structure. The total execution time of a routine corresponding to the event represented by the

node is retrieved, and the local overhead value is computed as the average of the execution time over the number of calls to the routine and the number of calls from the routine to other routines. Therefore it would have been obvious to one skilled in the art at the time the invention was made to generate a node having performance statistics/values which is useful to determine overhead compensation value to be applied to the performance statistic at each node as once suggested by Levine (col. 3:15-30).

Per claim 20, this is the program product version of the claimed method discussed above (Claim 10), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also obvious.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAC T. TECKLU whose telephone number is (571)272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Isaac T Tecklu/

Examiner, Art Unit 2192

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192